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ABSTRACT

A study examined the development of discourse cohesion in first language acquisition within a functional and cross-linguistic perspective. The analyses focused on how children introduce new referents in discourse across four languages: English, French, German, and Mandarin Chinese. The data base consists of narratives produced by children between the ages of 4 and 10 based on two picture sequences. The study presented the narrative task to the children as a game in which they had to help a blindfolded interlocutor find out what happened in the stories. General tendencies and differences were observed across ages and languages. It was not until the children were 6 to 7 years of age that they used appropriate devices for introducing referents within the linguistic context. The children marked their referent introductions with both NP types and NP position, although their reliance on these two types of linguistic devices varied as a function of the language being acquired. These results show the interplay of general cognitive factors, universal discourse pragmatic principles, and language-specific processes for determining the acquisition of linguistic devices during the development of discourse cohesion. (Author/MSE)

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A crosslinguistic study of cohesion in children's narratives: the introduction of referents

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ABSTRACT

This study examines the development of discourse cohesion in first language acquisition within a functional and crosslinguistic perspective. The analyses below focus on how children **introduce new referents** in discourse across four languages: **English**, **French**, **German**, and **Mandarin Chinese**. The data base consists of narratives produced by 4 to 10 year-old children on the basis of two picture sequences for a blindfolded interlocutor. Some general tendencies, as well as some differences, can be observed across ages and languages: (1) it is not until 6-7 years that children use appropriate devices to introduce the referents within the linguistic context; (2) children mark their referent introductions with both NP types and NP position, although their reliance on these two types of linguistic devices varies as a function of the language being acquired. These results show the interplay of general cognitive factors, of universal discourse pragmatic principles, and of language-specific processes, in determining the acquisition of linguistic devices during the development of discourse cohesion.

AIMS

In order to become competent speakers, children must learn to use various linguistic devices which are necessary to link successive utterances together in cohesive discourse. It is the mastery of such linguistic devices which allows them to rely maximally on discourse in order to communicate efficiently in situations where they cannot depend on mutually shared presuppositions in the speech situation. This aspect of first language acquisition, therefore, plays an essential role in the development of the capacity for "decontextualized" communication. More precisely, it corresponds to the ability to use language as its own context. This ability is a necessary component of all children's native competence, regardless of the language they are acquiring. However, the particular problems with which they are confronted during this acquisition process may vary a great deal from language to language, so that both general and language-specific factors may be involved in the development of discourse cohesion.

Among the linguistic devices which must be acquired by children for the organization of cohesive discourse are those which contribute to the marking of the opposition between "given" and "new" information. For example, consider a situation in which a speaker of English is narrating a series of events involving referents which have not yet been mentioned in previous discourse, which are not present, and which are not mutually known to his interlocutors. In this situation, the speaker must use different linguistic means when denoting the referents for the first time (e.g., indefinite determiner) and when maintaining reference to them thereafter (e.g., definite determiner). In addition, he will typically use different linguistic means in reference-maintainance as a function of various factors affecting how much the existence/identity of the referents can be presupposed (e.g., definite nominals,

explicit pronouns, zero anaphors).

There is a large body of developmental studies which have examined children's uses of referring expressions (cf. reviews in Hickmann, 1984; 1987). Some of these studies conclude that children have acquired formal oppositions in the referential system of their native language by 3 years, including those which differentiate specific vs. nonspecific reference and given vs. new information (e.g., Maratsos, 1976; Ochs and Schieffelin, 1976; MacWhinney and Bates, 1978). Other studies, however, have argued that the functions of different referring forms change during the course of development. In particular, it has been shown that only older children use appropriate referring expressions with discourse-internal functions, whereas young children use them deictically (e.g., Warden, 1976, 1981; Karmiloff-Smith, 1980, 1981; Hickmann, 1987; Bamberg, 1987; Vion, 1987). With few exceptions, most of this research has focused on English and to some extent on other Indo-European languages (e.g., French, Italian, German), while little is known about how children acquire oppositions in the referential systems of languages from other families. In addition, most studies have focused on the uses of referring expressions and little is known about other aspects of children's utterances in discourse. There is some evidence that very young children use word order to mark discourse pragmatic distinctions, but that they do so in different ways during the course of development (cf. a review in Slobin, 1985). For example, there is a universal tendency for adult speakers to place given information towards the beginning of their utterances and new information towards the end. In a considerable number of languages, however, young children seem to place new information at the beginning of their utterances, when they begin to combine elements after the one- word stage. Little is known, however, about how children learn to use word order for the distinction between given and new information.

The analyses below examine how children acquiring four different languages denote referents in narrative situations where they **cannot rely on shared knowledge** of the nonlinguistic context in order to communicate efficiently. Particular attention is placed on how children learn to **introduce** new referents into discourse by means of both referring expressions and clause structure across languages. These analyses are part of a larger study of which was designed with two major aims:

(1) to examine the relation between the **deictic** and **discourse-internal functions** of various linguistic devices in development as children learn to rely maximally on the linguistic context to communicate;

(2) to determine what are **universal** and **language-specific factors** in the development of discourse cohesion.

LANGUAGES COMPARED

The languages compared are English, French, German, and Mandarin Chinese. These languages vary in two ways: (1) the extent to which they rely on **NP types** versus **clause structure** for the marking of referent introductions; (2) the extent to which these devices simultaneously encode **discourse pragmatic** vs. **semantic/syntactic distinctions** (e.g., case, gender, number, subjecthood).

English, French, German

In all three languages there are **obligatory** oppositions among **indefinite** and **definite** nominal determiners which distinguish NP's that introduce new referents from those that refer to mutually known referents (EXAMPLES 1 to 3). A few other devices can also be used to introduce referents (e.g., numerals as in *two cows*, some demonstratives as in *this guy*, possessive constructions as in *there was a guy with his son*). In addition, these three languages differ in what other distinctions are encoded by nominal determiners, e.g., **gender** and

number in French, as well as **case** in German.

(1) ENGLISH

Sing:	**a/the** cow
Plural:	**0/the** cows

(2) FRENCH:

Sing/Fem:	**une/la** vache
Sing/Masc:	**un/le** chien
Plural:	**des/les** N

(3) GERMAN:

Sing/Fem:	**eine/die** Katze	(Nominative/Accusative)
	einer/der Katze	(Dative/Genitive)
Sing/Neut:	**ein/das** Pferd	(Nominative/Accusative)
	einem/dem Pferd	(Dative)
	eines/des Pferdes	(Genitive)
Sing/Masc:	**ein/der** Hund	(Nominative)
	einen/den Hund	(Accusative)
	einem/dem Hund	(Dative)
	eines/des Hundes	(Genitive)
Plural:	**0/die** N	(Nominative/Accusative)
	0/den N	(Dative)
	0/der N	(Genitive)

Chinese

Nominal determiners are not obligatory in Chinese and nominals can be used in the following three ways (cf. EXAMPLES 4):

(a) nominals with **numeral determiners** can only be used to introduce a new referent in discourse (e.g., *yi1* 'one' in 4.1);

(b) nominals with **demonstrative determiners** can only be used to denote referents that are mutually known (e.g., *nei4* 'that/those', *zhei4* 'this/these' in 4.2 and 4.3);

(c) bare nominals with **no determiners** can be used to denote referents regardless of whether they are new or mutually known (e.g., 4.4).

In addition, **classifiers** often accompany nominals. These classifiers are obligatory if determiners are used, optional otherwise. They are of two types:

(a) **specific classifiers**, which vary with different classes of referents (e.g., *tou2*, *zhi1* in 4.5 and 4.6);

(b) **the general classifier**, which applies to all referents (cf. *ge* in 4.1 to 4.4).

(4) 1. **yi1-ge** niu2 ('one/a cow')
2. **nei4-ge** niu2 ('that/those/the cow(s)')
3. **zhei4-ge** niu2 ('this/these/the cow(s)')
4. **0** niu2, **ge** niu2 ('a cow/the cow(s)/cows')
5. **yi1-tou2** niu2 ('one/a cow')
6. **yi1-zhi1** gou3 ('one/a dog')

Finally, **postverbal position** is highly preferred for referent introductions, whether or not they are marked by determiners and classifiers (EXAMPLES 5 to 7). Thus, the preverbal bare nominal in (7) cannot constitute the introduction of a new referent in discourse (for more details, see Li and Thompson, 1981; Hickmann and Liang, in press). Note that Chinese has **no morphological markings** encoding distinctions of gender, number, or case on NP's (nor any verbal inflections!).

(5) lai2-le **yi1-ge ren2** numeral/postverbal
come-PCL one-CL person =indefinite
A person came.

(5') ***yi1-ge ren2** lai2-le *numeral/preverbal
one-CL person come-PCL =not possible

(6) lai2-le **ren2** le bare N/postverbal
come-PCL person PCL =indefinite
A/some person(s) has/have come

(7) **ren2** lai2-le bare N/preverbal
person come PCL =definite
The person(s) has/have come

METHOD AND SUBJECTS

Children's narratives were elicited with **two picture sequences** (cf. FIGURES 1 and 2). Children were seen individually. The narrative task was presented to them as a game in which they had to help a **blindfolded** interlocutor figure out what happened in the stories, in such a way that this interlocutor

could then tell the story back without seeing the pictures. The rationale for this procedure was to encourage children to **rely maximally on discourse**, rather than on the nonlinguistic context, in order to communicate efficiently. For example, children had to introduce referents with appropriate linguistic means within the linguistic context, rather than deictically. The same materials and procedure were used with children of **4-5 years**, **6-7 years**, and **9-10 years**, as well as with control groups of **adults**. The analyses below focus on the introductions of the **animate** referents in both stories.

RESULTS

I. VARIATIONS IN NP TYPES (cf. TABLES 1 to 4)

In all languages the data show similar developmental progressions from **deictic** to **discourse-internal** uses of NP's. Although children rarely use pronouns to first mention the referents, **until 6-7 years** they do not make systematic use of appropriate devices to introduce referents within discourse. There is an **increase with age in the proportions of appropriately marked NP's**, e.g., indefinite determiners in the Indo-European languages, numeral determiners in Chinese (in Chinese the adults and the children from 6-7 years on also mark their referent introductions with specific classifiers). In this respect, note that the proportions of appropriately marked NP's vary across languages, particularly at 4-5: they are most frequent in German, least frequent in English, French and Chinese being intermediary, i.e.: **German > French, Chinese > English**. Regardless of language, however, one finds two types of **deictic uses at 4-5 years**: (a) uses of inappropriate NP's, e.g., definite determiners in the Indo-European languages, demonstrative determiners or (preverbal) bare nominals in Chinese (EXAMPLES 8 and 9); (b) uses of appropriately marked NP's in deictic utterances which label the referents and/or introduce them repeatedly from picture to picture (utterances of the type *a N, this/that/here is a N*, cf.

EXAMPLE 10).

(8) (...) **the bird**'s starting to fly off to get some worms. **The cat** comes to the tree... sits down... and starts to climb. And **the dog**'s just walking along... and the dog bites the cat's tail (...) (Age=7)

(9) 1. **zhe4-ge gelzi** he2 **xiao3 gelzi**
this-CL pigeon and little pigeon
this pigeon and the little pigeons

2. ran2hou4 xiao3 gelzi **mao1** kan4-jian4-le(...)
afterwards little pigeon cat look-see-PCL
and then the little pigeons, the cat saw (them)

3. Ran2hou4 **gou3** diao1-zhe mao1 de yi3ba
afterwards dog hold in mouth-PCL cat POS tail
and then the dog held the cat's tail in his mouth (Age=4)

(10) First **a duck** she's in her nest... **here's duck** she's out of her nest... with **a cat** there... and **here's a cat** climbing up the tree with **a dog** there... and **here's a dog** who's chasing **a cat** and... and that thing is getting back into her nest. (Age=4)

II. NP TYPES VS. NP POSITION (cf. TABLES 1 to 4, FIGURE 3)

First, with the exception of English, children tend to mark referent introductions not only with NP forms, but also with **postverbal NP position**. In Chinese, however, the children clearly rely less on word order than the adults.

Second, with the exception of English, **appropriate NP's tend to be postverbal** and, with the exception of German, **inappropriate NP's tend to be preverbal**. For example, appropriate NP's often occur in predicating or existential constructions (EXAMPLE 10). In Chinese they also occur in **maximally prototypical** referent introductions of the type VERB-NP (EXAMPLE 11).

(11) 1. lai2-le **yi1-zhi1 hu2li2** (...)
come-PCL one-CL fox
(there) comes a fox

2. jiu4 lai2-le **yi1-zhi1 gou3** (Age=5)
then come-PCL one-CL dog
then comes a dog

Third, there are some **differences across languages in the use of postverbal position**. In **German** postverbal referent introductions are most frequent. However, word-order variations in German frequently result from formal

clause-internal constraints. e.g., the children (more than the adults) often use temporal/aspectual or locative elements in sentence-initial position which trigger subject-verb inversion (EXAMPLE 12). In **English** postverbal referent introductions are least frequent, e.g., there are frequent preverbal indefinite NP's (EXAMPLE 13). The proportions of postverbal referent introductions are intermediary in **French** and **Chinese** and they increase with age.

(12) und dann kommt **ein Hund**
und dann zieht **der Hund** die Katze runter (Age=7)
(and then comes a dog and then the dog pulls the cat down)

(13) **A bird** was in a nest ... and **a cat** comes ... and the bird flies away ... the cat ... looks at the little ... birds ... and he climbs up a tree ... **a dog** comes after 'm (Age=7)

Note that the types of clause structures in which inappropriate referent introductions are embedded vary from language to language, showing that young children are confronted with **language-specific problems**. For example, **left-dislocations** cannot be used in adult French discourse for the introduction of new referents. A large proportion of the French 4 to 7 year-olds' referent introductions are embedded in such clause structures, while such uses disappear after 7 years (EXAMPLE 14).

(14) C'est l'oiseau qui vient, il vient couvrir ses petits ses petits ... poussins et **le chat il** voit que l'oiseau il s'en va et les pet-- et le chat et il va les attraper. Et là il les regarde et là il monte sur l'arbre. Après **le chien il** arrive, il lui attrape la queue au chat. L'oiseau il arrive et après il lâche la queue du chat et le chien il va ... a... il va attraper le chat. (Age=4)

CONCLUSIONS

In all languages the mastery of appropriate linguistic devices for the introduction of referents within discourse is a relatively **late development**. This ability emerges at about 6-7 years and it is preceded by an earlier phase during which children use linguistic devices **deictically**, because they have not yet learned their discourse-internal functions. In contrast to previous claims, many of the young children's uses of linguistic devices show that they are

concerned with the addressee's "perspective". Such uses, therefore, cannot be explained strictly on the basis of general language-independent principles such as "egocentricity". Rather, young children have to solve problems which are specific to the organization of discourse.

Some cross-linguistic differences can also be observed in children's uses of linguistic devices in discourse, indicating that the specificities of the languages acquired affect the course of development.

(a) **local NP-markings**: although English, French, and German all require the marking of referent introductions with indefinite forms, the frequency with which these forms are used by the young children differ across these languages, indicating that the more distinctions are encoded by these local markings, the more salient they might be during development.

(b) **word order**: although there is a universal tendency for all speakers to place "new" information after the verb and "given" information before, this discourse principle does not determine children's uses of NP position to the same degree in different languages. In German the high frequencies of postverbal referent introductions result from grammatical constraints which override semantic and discourse determinants of NP position. In English the low frequencies of postverbal referent introductions result from the fact that position is more determined by semantic factors than by discourse factors. Discourse factors have the most effect on NP positions in French and Chinese and this effect increases with age: these children gradually learn to avoid preverbal referent introductions in various types clause structures.

In **Chinese** the adults systematically use not only word order, but also (optional) local NP-markings to introduce referents. The **relative complexity** of these different markings in Chinese could account for why the children use NP position less than the adults. Chinese word order involves relations among

several elements and simultaneously marks (intra-utterance) semantic relations and (inter-utterance) pragmatic ones in discourse. In contrast, Chinese local NP-markings bear on only one element in the clause and their main function is a pragmatic one. However, some highly marked clause structures of the type VERB-NP are acquired by the Chinese children from 5 years on. This early acquisition can be explained by the **communicative functions** of these clause structures as maximally prototypical means of referent introductions in Chinese.

TABLE 1: REFERENT INTRODUCTIONS IN GERMAN

	4-5 yrs	6-7 yrs	9-10 yrs	Adults
NP TYPES				
Indefinite				
-nondeictic	(19) 43%	(62) 65%	(42) 86%	(25) 71%
-deictic	(13) 30%	(4) 4%	--	(2) 6%
Possessive	--	(2) 2%	--	(3) 9%
Definite	(12) 27%	(27) 28%	(7) 14%	(5) 14%
Total	(44)	(95)	(49)	(35)
NP POSITIONS				
Preverbal	(11) 34%	(16) 17%	(5) 10%	(12) 34%
Postverbal	(21) 66%	(77) 83%	(43) 90%	(23) 66%
Total	(32)	(93)	(48)	(35)

TABLE 2: REFERENT INTRODUCTIONS IN FRENCH

	4-5 yrs	6-7 yrs	9-10 yrs	Adults
NP TYPES				
Indefinite				
-nondeictic	(22) 36%	(72) 57%	(87) 84%	(69) 82%
-deictic	(12) 20%	(1) 1%	(1) 1%	(2) 2%
Possessive	--	(10) 8%	(5) 4%	(3) 4%
Definite	(27) 44%	(41) 32%	(11) 11%	(10) 12%
Pronoun	--	(3) 2%	--	--
Total	(61)	(127)	(104)	(84)
NP POSITIONS				
Preverbal	(22) 37%	(39) 31%	(21) 20%	(23) 30%
Postverbal	(37) 63%	(87) 69%	(82) 80%	(54) 70%
Total	(59)	(126)	(103)	(77)

TABLE 3: REFERENT INTRODUCTIONS IN ENGLISH

	4-5 yrs		6-7 yrs		9-10 yrs		Adults	
NP TYPES								
Indefinite								
-nondeictic	(26)	22%	(71)	53%	(120)	88%	(91)	88%
-deictic	(7)	6%	(2)	1%	--		--	
Possessive	(1)	1%	(5)	4%	(5)	4%	(3)	3%
Definite	(80)	66%	(50)	37%	(12)	9%	(10)	10%
Pronoun	(7)	6%	(6)	4%	--		--	
Total	(121)		(134)		(137)		(104)	
NP POSITIONS								
Preverbal	(79)	67%	(81)	60%	(62)	45%	(39)	38%
Postverbal	(39)	33%	(53)	40%	(75)	55%	(64)	62%
Total	(118)		(134)		(137)		(103)	

TABLE 4: REFERENT INTRODUCTIONS IN CHINESE

	4-5 yrs	6-7 yrs	9-10 yrs	Adults
NP TYPES				
Deictic uses	(9) 9%	--	--	--
Numeral	(43) 45%	(100) 64%	(52) 74%	(54) 86%
Bare nominal	(30) 31%	(49) 31%	(18) 26%	(6) 9%
Demonstrative	(14) 15%	(6) 4%	--	(3) 5%
Pronoun	--	(1) 1%	--	--
Total	(96)	(156)	(70)	(63)
NP POSITIONS				
Preverbal	(47) 57%	(60) 39%	(24) 39%	(12) 20%
Postverbal	(36) 43%	(92) 61%	(38) 61%	(49) 80%
Total	(83)	(152)	(62)	(61)

FOOTNOTES TO THE TABLES

*Indefinite forms involved for the most part indefinite determiners and a few numeral and demonstrative ones. Definite forms involved for the most part definite determiners (a few of which were appropriately used, e.g., *the doctor came*) and a few nominals used as proper names (*Cat came*).

**Some NP's were excluded for the position analysis (e.g., NP's used to label the referents in verbless clauses).

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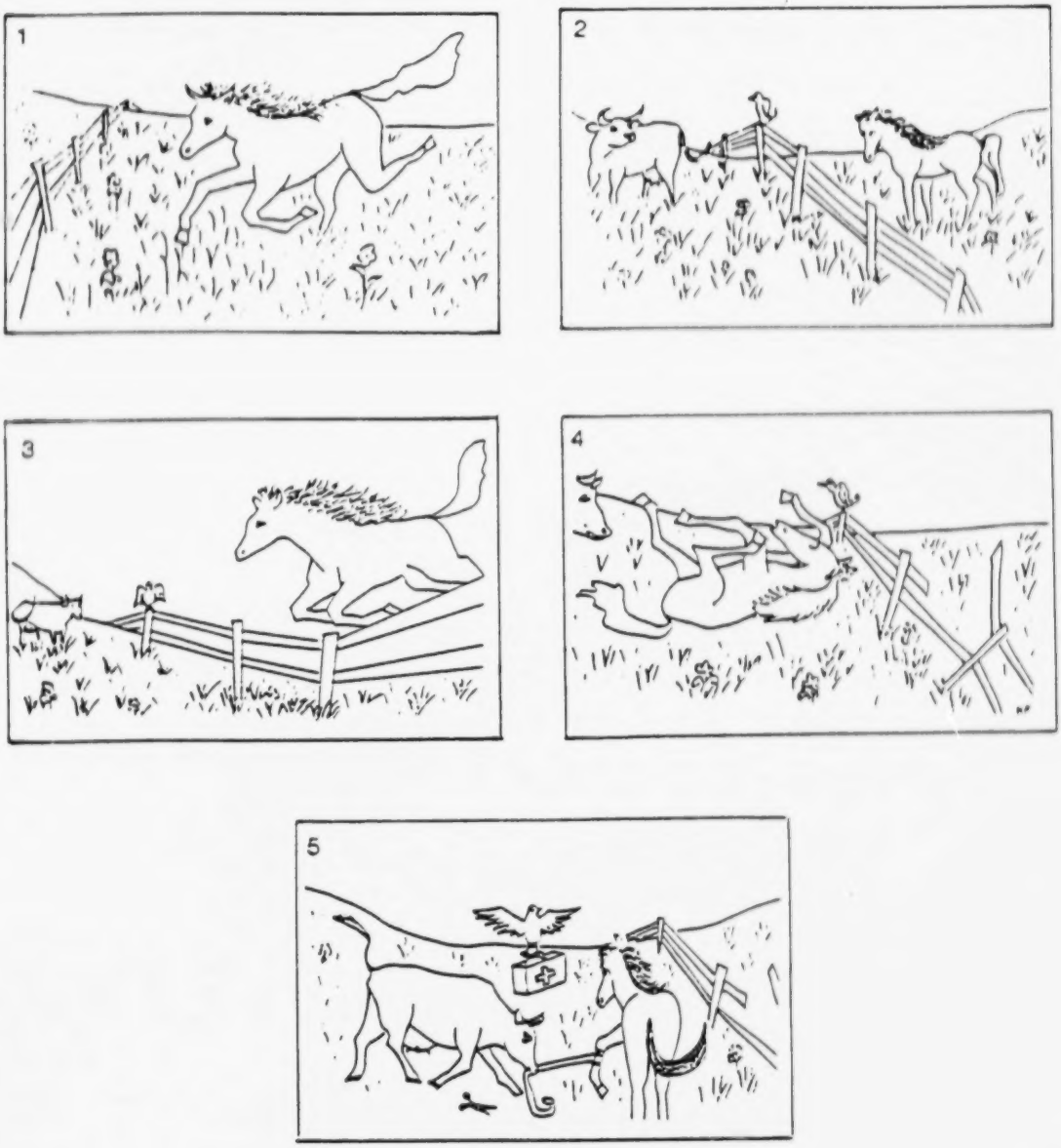

FIGURE 1

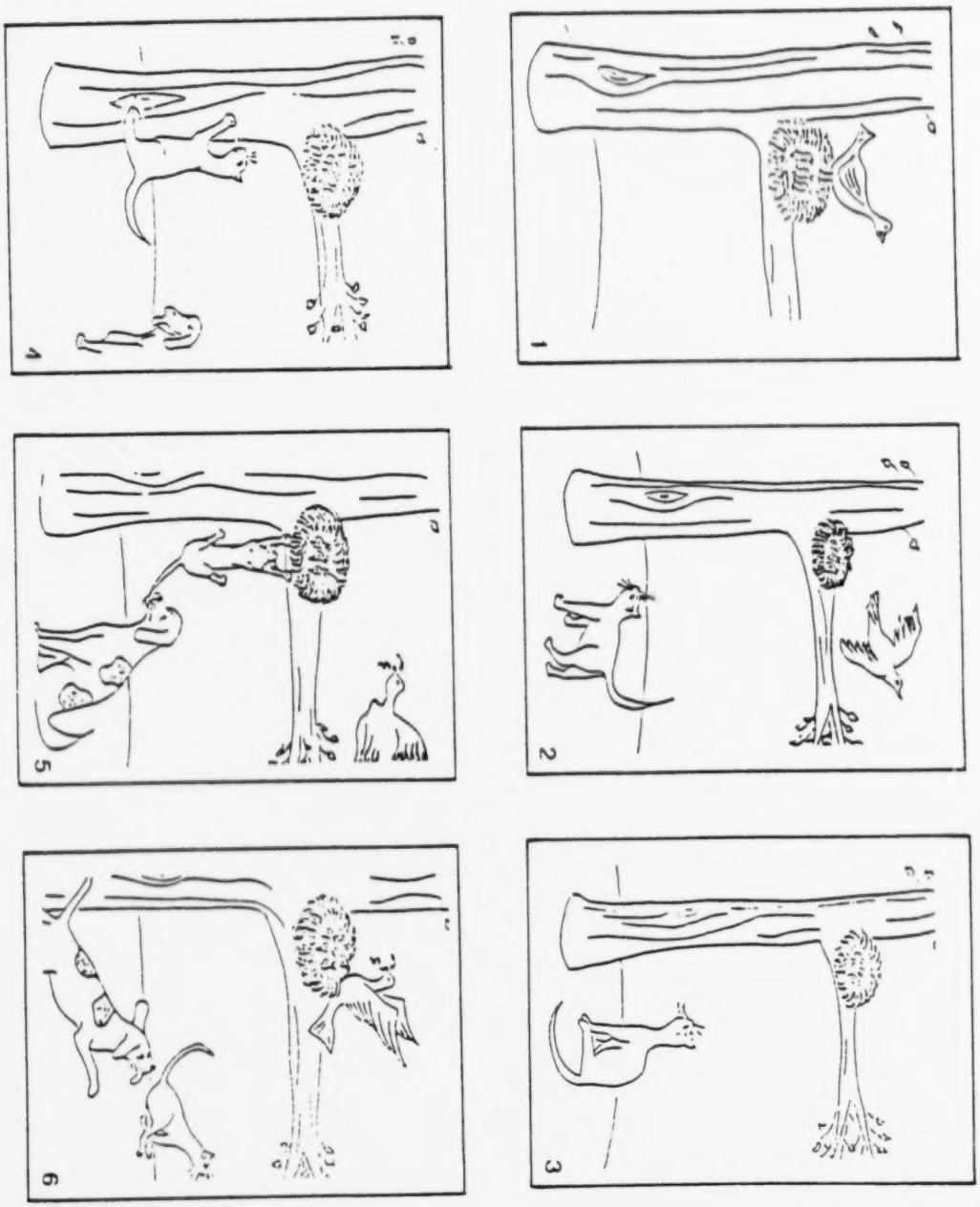

FIGURE 2

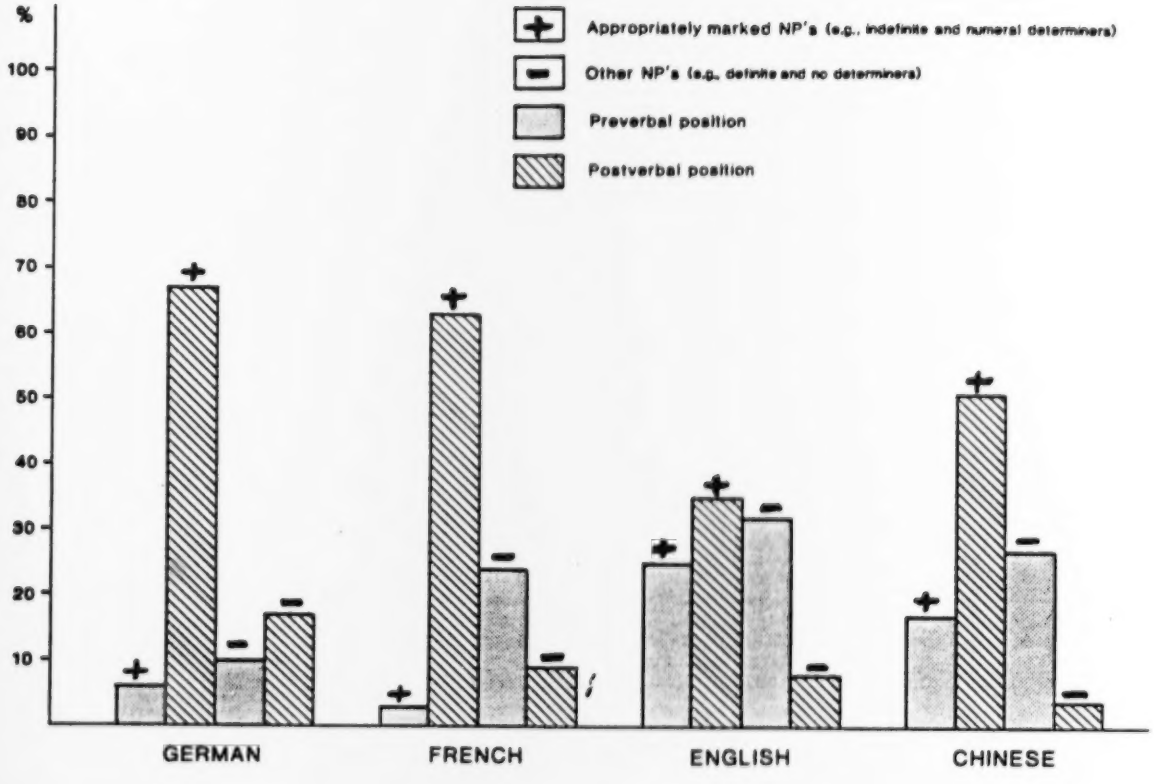

Figure 3: Types and positions of NP's used by children to introduce referents